IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:	Confirmation No.: **1018**
DUFT et al	Art Unit: **1645**
Appl. No.: **09/445,517**	Examiner: **Sarvamangala J.N. DEVI**
Filed: June 5, 1998	Atty. Docket: **235/013US**
For: **Methods For Treating Obesity**	

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Reply Brief under 37 CFR §41.41

In response to the **Examiner's Answer** mailed February 13, 2009, Appellants are submitting this Reply Brief which is due on or before April 13, 2009.

No fees are believed to be due; however, the Commissioner is authorized to charge any necessary fees or credit any overpayments to Deposit Account No. 010535 referencing Atty. Dkt. No. 235/013 US to maintain the pendency of this application.

Status of Claims begins on Page 2.

Grounds of Rejection to be Reviewed on Appeal begins on Page 3.

Arguments begin on Page 4.

CERTIFICATE OF TRANSMITTAL UNDER 37 C.F.R. 1.8

I hereby certify that this paper (along with anything referred to as being attached or enclosed) is being electronically filed via EFS-Web at the United States Patent and Trademark Office, on the date shown below.

April 13, 2009
Date of Deposit

Debra A. Villanueva
Name of Person Filing Paper

Signature of Person Filing Paper

Status of Claims

Claims 23-29, 31-39, 68-80, 82 and 84-97 are pending, with Claims 25-26, 28, 35-36, 69-71, 73-75, 77-79 and 85-94 withdrawn, and with Claims 1-22, 30, 40-67, 81 and 83 cancelled. Claims 23, 24, 27, 29, 31-34, 37-39, 68, 72, 76, 80, 82, 84 and 95-97 are under appeal.

Grounds of Rejection to be Reviewed on Appeal

1. Whether Claims 23, 24, 33 and 34 are unpatentable under the judicially created doctrine of obviousness-type double patenting over claims 34 and 35 of Gaeta *et al.* (U.S. Patent No. 5,686,411) (hereinafter "Gaeta," already of record) as evidenced by Tsanev (*Vutr. Boles* **23**:12-17, 1984, hereinafter "Tsanev").

2. Whether Claims 23 and 33 are unpatentable under the judicially created doctrine of obviousness-type double patenting over claims 11 and 13 of Beaumont *et al.* (U.S. Patent No. 5,321,008) (hereinafter "Beaumont," already of record) as evidenced by Tsanev.

3. Whether Claim 33 and Claims 34, 37-39, 72, 82 and 96 dependent therefrom are unpatentable under 35 U.S.C. § 112, first paragraph, as containing new matter.

4. Whether Claims 23, 24, 27, 29, 31-34, 37-39, 68, 72, 76, 80, 82, 84 and 95-97 are unpatentable under 35 U.S.C. § 112, first paragraph, as being non-enabling with regard to the scope of the claims.

5. Whether Claims 23, 24, 27, 29, 31, 33, 34, 37-39, 80 and 82 are unpatentable under 35 U.S.C. § 102(b) as anticipated over Kolterman *et al.* (WO 96/40220) (hereinafter "Kolterman '220," already of record) as evidenced by Tsanev.

6. Whether Claims 23, 24, 29, 33, 34 and 38 are unpatentable under 35 U.S.C. §102(e)(2) as anticipated over Gaeta as evidenced by Tsanev.

7. Whether Claims 23, 24, 27, 29, 31, 33, 34, 37-39, 80 and 82 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by Kolterman et al. (*Diabetologia* **39**:492-499, April 1996) (hereinafter "Kolterman 1996," already of record) as evidenced by Itasaka *et al.* (*Psychiatr. Clin. Neurosci.* **54**:340-341, June 2000) (hereinafter "Itasaka," already of record).

8. Whether Claims 23, 24, 27, 29, 33, 34, 37 and 38 are unpatentable under 35 U.S.C. § 102(e)(2) as being anticipated by Beaumont as evidenced by Tsanev.

Arguments

1. Claims 23, 24, 33 and 34 are not obvious under the judicially-created doctrine of obviousness-type double patenting over claims 34 and 35 of Gaeta as evidenced by Tsanev.

Appellants incorporate herein the Arguments presented in the Brief on Appeal filed 29 October 2008.

Claims 34 and 35 of Gaeta are directed to a method of treating diabetes mellitus in a mammal using a defined set of amylin agonists (34) or a specific amylin agonist, pramlintide (35). Diabetes mellitus includes several states all of which have "hyperglycemia" in common, and in the case of insulin-requiring type 1 or type II patients, may have a risk of hypoglycemia in common.

> Diabetes mellitus is a serious metabolic disease that is defined by the presence of chronically elevated levels of blood glucose (hyperglycemia). Gaeta at column 1, lines 21-23.
>
> The term diabetes mellitus encompasses several different hyperglycemic states. Gaeta at column 1, lines 36-37

Being obese is not a type or state of diabetes mellitus, nor is it a condition found in all patients with diabetes mellitus. Not surprisingly, the word "obesity" does not appear in Gaeta. Gaeta (1) never contemplated or considered treating obesity, (2) never conducted any experiments for treating obesity, (3) never analyzed any results on the treatment of obesity; and (4) never presented any findings on the treatment of obesity. Gaeta had no intention to treat obesity. Gaeta did intend to treat a glycemic aspect of diabetes mellitus.

Gaeta does not disclose, teach or suggest the limitations in the pending claims that recite, *inter alia*:

- "A method of treating obesity in a human subject..."
- "...an amount...effective to treat obesity..."
- "not administered in conjunction with another obesity relief agent" (Claims 23 and 24)
- "...wherein said human subject is in need of treatment for obesity."

Gaeta does not indicate or suggest that its claimed use of compounds that control aspects of glycemia to treat diabetes mellitus would have any effect or use in treating obesity in patients with diabetes mellitus or in non-diabetic patients.

Further Tsanev does not cure the deficiencies of Gaeta. Tsanev does not mention amylin agonist analogs and does not provide evidence or even a suggestion that a drug for treating diabetes mellitus would also be expected to be effective in treating obesity. Accordingly, claims 34 and 35 of Gaeta directed to treating diabetes mellitus, even if taken with Tsanev, do not render obvious the claims presently on appeal directed to treating obesity. Nor does the combination of Gaeta with Tsanev render obvious the claims presently on appeal. The rejection should be withdrawn on this basis.

Although the rejection is one of obviousness, the Examiner's only argument is based on inherent anticipation by Gaeta. This cannot support the rejection based on obviousness, since the Examiner's argument does not demonstrate that one of ordinary skill in the art would have known that which is alleged to be inherent in the cited art. "That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown." *In re Spormann*, 363 F.2d 444, 448, 53 CCPA 1375, 1380, 150 USPQ 449, 452 (1966). The rejection should be withdrawn on this basis.

The inherent anticipation argument is based on an incorrect application of law and an incorrect characterization of the cited art, and should be withdrawn. As noted above, Gaeta is directed to treating diabetes mellitus by addressing it underlying glycemic defects. No mention is made of obesity and no intent is present or evident in Gaeta to treat obesity. Tsanev is not relevant to the claimed invention because it does not cure the deficiencies of Gaeta. Assuming, *arguendo*, that Tsanev is relevant to the claimed invention, it does not provide evidence of inherent anticipation by Gaeta as argued in the **Examiner's Answer**.

The **Examiner's Answer** incorrectly applies the law on inherent anticipation. A claimed invention is inherent in the prior art if it is a "necessary and inevitable" consequence of the disclosure in a prior art reference. *Schering Corp. v. Geneva Pharmaceuticals, Inc.*, 339 F.3d 1373, 1378-1380 (Fed. Cir. 2003) (Emphasis Added). Stated another way, "[i]nherency, however, may not be established by probabilities or possibilities. The mere fact

that a certain thing may result from a given set of circumstances is not sufficient." *Continental Can Company USA v. Monsanto Company*, 948 F.2d 1264, 1269 (Fed. Cir. 1991) (Emphasis added).

The **Examiner's Answer** proves that Gaeta cannot anticipate the claimed invention. Tsanev teaches that at least 10-20% of some diabetes patients are NOT obese. If at least 10-20% of some diabetes patients are NOT obese, then the treatment of obesity is not a necessary and inevitable consequence of Gaeta's treatment of diabetes. That a treatment for obesity may result (which is not guaranteed because at least 10-20% of some diabetes patients are NOT obese) is not sufficient to establish inherency.

To summarize, in order for a prior art reference to inherently anticipate, the same result (e.g., treatment for obesity) must occur in the prior art reference each and every time (i.e., inevitable). Because at least 10-20% of some diabetes patients are not obese, a treatment for obesity cannot occur each and every time by practicing Gaeta.

Further, the **Examiner's Answer** mischaracterizes the teachings of Tsanev, which undercuts the basis for the stated rejection. At page 29 of the **Examiner's Answer** the basis for the reliance on Tsanev is found:

> Given the art-known prevalence of intrinsic obesity in 80% to 90% of the *insulin-requiring* diabetic patients as disclosed by Tsanev. . .

However, Tsanev does not support the Examiner's premise, since that portion of Tsanev being referred to by the Examiner does not relate directly and unambiguously to insulin-requiring diabetic patients. What Tsanev the Abstract actually states is that:

> Age type diabetes was established in 80-90 percent of all diabetics. 80-90 percent of them being with overweight.

The newly cited Tsanev full scientific paper does not cure this defect since its corresponding statement at page 12 states that:

> 80-90% of all diabetics have mature onset diabetes (MOD), and 80-90% of them have above-normal weight.

Neither Tsanev statement supports the Examiner's premise related to insulin-requiring diabetic patients.

Importantly, neither Tsanev passage reciting the estimated percentage range as relied on in the **Examiner's Answer** clearly relates to obesity. The Tsanev Abstract refers to 80-90% of patients being "overweight" and the full scientific paper refers to 80-90% of patients being "above-normal weight." Neither term is necessarily medically equivalent to obesity. Consequently, Tsanev does not provide the teaching as alleged and relied upon by the Examiner, and cannot provide the "evidence" relied upon as a basis for the rejection.

Appellants request that the Board of Patent Appeals and Interferences remand this case to the Examiner with instructions to withdraw this rejection of Claims 23, 24, 33 and 34 under the judicially created doctrine of obviousness-type double patenting.

2. Claims 23 and 33 are not obvious under the judicially created doctrine of obviousness-type double patenting over claims 11 and 13 of Beaumont as evidenced by Tsanev.

Rink (US Patent No. 5,739,106) has been withdrawn from this rejection as indicated in the **Examiner's Answer** at Page 2, Part 6.

Appellants incorporate herein the Arguments presented in the Brief on Appeal filed 29 October 2008.

Claims 11 and 13 of Beaumont are directed to methods of treating diabetes mellitus in an insulin-requiring human by administering a calcitonin (claim 11) and further where the insulin-requiring human has type 2 diabetes (claim 13). Diabetes mellitus includes several states all of which have "hyperglycemia" in common, and in the case of insulin-requiring type 1 or type II patients, may have a risk of hypoglycemia in common.

> Diabetes mellitus is a metabolic disorder defined by the presence of chronically elevated levels of blood glucose (hyperglycemia). Beaumont at column 1, lines 26-28.
>
> The term diabetes mellitus encompasses several different hyperglycemic states. Gaeta at column 1, lines 36-37

Being obese is not a type or state of diabetes mellitus, nor is it a condition found in all patients with diabetes mellitus. Not surprisingly, the word "obesity" does not appear in

Beaumont. Beaumont (1) never contemplated or considered treating obesity, (2) never conducted any experiments for treating obesity, (3) never analyzed any results on the treatment of obesity; and (4) never presented any findings on the treatment of obesity. Beaumont had no intention to treat obesity.

Beaumont does not disclose, teach or suggest the limitations in the pending claims that recite, *inter alia*:

- "A method of treating obesity in a human subject..."
- "...an amount...effective to treat obesity..."
- "not administered in conjunction with another obesity relief agent" (Claim 23)
- "...wherein said human subject is in need of treatment for obesity."

Beaumont does not indicate or suggest that its claimed use of compounds that control aspects of glycemia to treat diabetes mellitus would have any effect or use in treating obesity in patients with diabetes mellitus or in non-diabetic patients.

Further Tsanev does not cure the deficiencies of Beaumont. Tsanev does not mention amylin agonists analogs and does not provide evidence or even a suggestion that a drug for treating diabetes mellitus would also be expected to be effective in treating obesity. Accordingly, claims 23 and 33 of Beaumont directed to treating diabetes mellitus, even if taken with Tsanev, do not render obvious the claims presently on appeal directed to treating obesity. Nor does the combination of Beaumont with Tsanev. The rejection should be withdrawn on this basis.

Although the rejection is one of obviousness, the Examiner's only argument is based on inherent anticipation by Beaumont. This cannot support the rejection based on obviousness, since the Examiner's argument does not demonstrate that one of ordinary skill in the art would have known that which is alleged to be inherent in the cited art. "That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown." *In re Spormann*, 363 F.2d 444, 448, 53 CCPA 1375, 1380, 150 USPQ 449, 452 (1966). The rejection should be withdrawn on this basis.

The inherent anticipation argument is based on an incorrect application of law and an incorrect characterization of the cited art, and should be withdrawn. As noted above, Beaumont

is directed to treating diabetes mellitus by addressing it underlying glycemic defects. No mention is made of obesity and no intent is present or evident in Beaumont to treat obesity. Tsanev is not relevant to the claimed invention because it does not cure the deficiencies of Gaeta. Assuming, *arguendo*, that Tsanev is relevant to the claimed invention, it does not provide evidence of inherent anticipation by Gaeta as argued by in the **Examiner's Answer**.

The **Examiner's Answer** incorrectly applies the law on inherent anticipation. A claimed invention is inherent in the prior art if it is a "necessary and inevitable" consequence of the disclosure in a prior art reference. *Schering Corp. v. Geneva Pharmaceuticals, Inc.,* 339 F.3d 1373, 1378-1380 (Fed. Cir. 2003) (Emphasis Added). Stated another way, "[i]nherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Continental Can Company USA v. Monsanto Company*, 948 F.2d 1264, 1269 (Fed. Cir. 1991) (Emphasis Added).

The **Examiner's Answer** proves that Beaumont cannot anticipate the claimed invention. Tsanev teaches that at least 10-20% of some diabetic patients are NOT obese. If at least 10-20% of some diabetic patients are NOT obese, then the treatment of obesity is not a necessary and inevitable consequence of Beaumont's treatment of diabetes. That a treatment for obesity may result (which is not guaranteed because at least 10-20% of some diabetes patients are NOT obese) is not sufficient to establish inherency.

To summarize, in order for a prior art reference to inherently anticipate, the same result (e.g., treatment for obesity) must occur in the prior art reference each and every time (i.e., inevitable). Because at least 10-20% of some diabetes patients are not obese, a treatment for obesity cannot occur each and every time by practicing Beaumont.

Further, the **Examiner's Answer** mischaracterizes the teachings of Tsanev, which undercuts the basis for the stated rejection. At page 30 of the **Examiner's Answer** the basis for the reliance on Tsanev is found:

> Given the art-known prevalence of intrinsic obesity in 80% to 90% of diabetic patients as disclosed by Tsanev. . .

However, Tsanev does not support the Examiner's premise, since that portion of Tsanev being

referred to by the Examiner does not relate directly and unambiguously to all diabetes patients. What Tsanev the Abstract actually states is that:

> Age type diabetes was established in 80-90 percent of all diabetics. 80-90 percent of them being with overweight.

The newly cited Tsanev full scientific paper does not cure this defect since its corresponding statement at page 12 states that:

> 80-90% of all diabetics have mature onset diabetes (MOD), and 80-90% of them have above-normal weight.

Neither Tsanev statement supports the Examiner's premise.

Importantly, neither Tsanev passage reciting the estimated percentage range relied on in the **Examiner's Answer** clearly relates to obesity. The Tsanev Abstract refers to 80-90% of patients being "overweight" and the Tsanev full scientific paper refers to 80-90% of patients being "above-normal weight." Neither term is necessarily medically equivalent to obesity. Consequently, Tsanev does not provide the teaching as alleged and relied upon by the Examiner, and cannot provide the "evidence" relied upon as a basis for the rejection.

Appellants request that the Board of Patent Appeals and Interferences remand this case to the Examiner with instructions to withdraw this rejection of Claims 23 and 33 under the judicially created doctrine of obviousness-type double patenting.

3. Claim 33 and Claims 34, 37-39, 72, 82 and 96 dependent therefrom satisfy the Written Description Requirement under 35 U.S.C. § 112, First Paragraph, because they do not contain new matter.

This ground of rejection was withdrawn with respect to Claim 80 as indicated in the **Examiner's Answer** at Page 2, Part 6

Appellants incorporate herein the Arguments presented in the Brief on Appeal filed 29 October 2008.

The **Examiner's Answer** appears to be requiring Appellants' specification to describe the claimed invention in *ipsis verbis*. This is not the standard. According to the Board of Patent Appeals and Interferences in *Ex parte Sorenson*, 3 U.S.P.Q.2d 1462, 1463 (P.T.O. Bd. Pat. App.

& Int'f 1987), the test for determining whether a claimed invention is adequately described in the specification is whether the originally filed disclosure *reasonably* conveys to a person having ordinary skill in the art that the Appellants had possession of the subject matter later claimed.

When viewed as a whole, Appellants' claimed invention is adequately described in the specification to reasonably convey to a person skilled in the art that Appellants were in possession of the claimed subject, e.g., for the reasons discussed in the Brief on Appeal filed 29 October 2008, the contents of which are incorporated herein by reference.

Appellants request that the Board of Patent Appeals and Interferences remand this case to the Examiner with instructions to withdraw this rejection of Claims 33 and Claims 34, 37-39, 72, 82 and 96 dependent therefrom under 35 U.S.C. § 112, first paragraph.

4. Claims 23, 24, 27, 29, 31-34, 37-39, 68, 72, 76, 80, 82, 84 and 95-97 are Enabled under 35 U.S.C. § 112, First Paragraph.

Appellants incorporate herein the Arguments presented in the Brief on Appeal filed 29 October 2008.

The **Examiner's Answer** (e.g., at the paragraph bridging pages 3 and 4) appears to state that the only claim that would be enabled would be a claim that exactly duplicates all the conditions in the Examples. Appellants' specification when viewed as a whole, including Examples 1-3, provides guidance for the skilled artisan to practice the claimed invention without undue experimentation for the reasons discussed in the Brief on Appeal filed 29 October 2008, the contents of which are incorporated herein by reference.

Appellants note that the **Examiner's Answer** at pages 9 to 10 presents and discusses comments made in an Appeal Brief in the parent application in response to a rejection based on US Patent 5,739,106 to Rink et al. The comments were raised as evidence of non-enablement of the present claims directed to treating obese patients, and further as evidence to doubt the objective truth of the teachings of the present application. See **Examiner's Answer** at page 9. As noted in the Brief on Appeal filed 29 October 2008: The test of enablement is not whether experimentation is necessary, but rather whether any experimentation that is necessary is undue. The statements related to Rink do not moot this point. Rink teaches very specific conditions, that

rat amylin administered alone to young, lean mice intraperitoneally once at 1 ug/kg dose, did not result in a reduction in food intake as determined by a measurement taken only 30 minutes post IP injection. This specific experimental protocol, not even directed to obese subjects, does not lessen the veracity of the teachings of the present application directed to treating obese patients as claimed.

Appellants request that the Board of Patent Appeals and Interferences remand this case to the Examiner with instructions to withdraw this rejection of Claims 23, 24, 27, 29, 31-34, 37-39, 68, 72, 76, 80, 82, 84 and 95-97 under 35 U.S.C. § 112, first paragraph.

5. Claims 23, 24, 27, 29, 31, 33, 34, 37-39, 80 and 82 are not anticipated under 35 U.S.C. § 102(b) by Kolterman '220 as evidenced by Tsanev.

Appellants incorporate herein the Arguments presented in the Brief on Appeal filed 29 October 2008.

Kolterman '220 is directed to methods of treating diabetes. Kolterman '220 (1) never contemplated or considered treating obesity with amylin or amylin agonists, (2) never conducted any experiments with amylin or amylin agonists for treating obesity, (3) never analyzed any results on the treatment of obesity with amylin or amylin agonists; and (4) never presented any findings on the treatment of obesity with amylin or amylin agonists. Kolterman 1996 had no intention to treat obesity.

Kolterman '220 does refer to obesity and weight; however, the **Examiner's Answer** mischaracterizes Kolterman '220. In the Background of the Invention, Kolterman '220 provides the following references to obesity/weight:

> The hyperglycemia associated with Type II diabetes can sometimes be reversed or ameliorated by diet or weight loss sufficient to restore the sensitivity of the peripheral tissues to insulin. Kolterman '220 at page 7, lines 9-12.

> Lifestyle modifications include the maintenance of regular exercise, as an aid both to weight control and also to reduce the degree of insulin resistance. Kolterman '220 at page 8, lines 20-22.

> Type II diabetics who fail to respond to diet and weight loss may respond to therapy with oral hypoglycemic agents such as sulfonylureas and biguanides. Insulin therapy, however, is used to treat other patients with Type II diabetes,

> especially those who have undergone primary dietary failure and are not obese....
> Kolterman '220 at page 8, lines 29-36.

Nothing in the Background of the Invention of Kolterman '220 provides any motivation or suggestion to use amylin or amylin agonists to treat obesity. Nothing in these statements suggests that Kolterman '220 had any intention to treat obesity with amylin or amylin agonists.

In the Summary of the Invention at page 10, lines 6-15, Kolterman '220 provides the following reference to weight/obesity:

> In one aspect, the present invention is directed to a method for the treatment of a non-insulin-taking Type II diabetic subject comprising administering a therapeutically effective amount of an amylin agonist. By "non-insulin-taking" Type II diabetic subject" is meant a subject who has Type II diabetes mellitus, but whose diabetes is currently being managed without the use of insulin, for example, by any combination of diet, exercise, lifestyle modification, or use of oral hypoglycemic agents, such as biguanides and sulfonylureas.

Again, nothing in this part of Kolterman '220 provides any motivation or suggestion to use amylin or amylin agonists to treat obesity. Nothing in these statements suggests that Kolterman '220 had any intention to treat obesity with amylin or amylin agonists. Kolterman '200 did intend to treat a glycemic aspect of diabetes mellitus.

Kolterman '220 simply does not disclose, teach or suggest the limitations in the pending claims that recite, *inter alia*:

- "A method of treating obesity in a human subject..."
- "...an amount...effective to treat obesity..."
- "not administered in conjunction with another obesity relief agent" (Claim 23)
- "...wherein said human subject is in need of treatment for obesity."

The **Examiner's Answer** incorrectly applies the law on inherent anticipation. A claimed invention is inherent in the prior art if it is a "necessary and inevitable" consequence of the disclosure in a prior art reference. *Schering Corp. v. Geneva Pharmaceuticals, Inc.,* 339 F.3d 1373, 1378-1380 (Fed. Cir. 2003) (Emphasis Added). Stated another way, "[i]nherency, however, may not be established by probabilities or possibilities. The mere fact

that a certain thing may result from a given set of circumstances is not sufficient." *Continental Can Company USA v. Monsanto Company*, 948 F.2d 1264, 1269 (Fed. Cir. 1991) (Emphasis Added).

The **Examiner's Answer** proves that Kolterman '220 cannot anticipate the claimed invention. Tsanev teaches that at least 10-20% of some diabetes patients are NOT obese. If at least 10-20% of some diabetes patients are NOT obese, then the treatment of obesity is not a necessary and inevitable consequence of Kolterman '220's treatment of diabetes. That a treatment for obesity may result (which is not guaranteed because at least 10-20% of diabetics are NOT obese) is not sufficient to establish inherency.

To summarize, in order for a prior art reference to inherently anticipate, the same result (e.g., treatment for obesity) must occur in the prior art reference each and every time (i.e., inevitable). Because at least 10-20% of diabetic patients are not obese, a treatment for obesity cannot occur each and every time by practicing Kolterman '220.

Further, Tsanev is not relevant to the claimed invention because it does not cure the deficiencies of Kolterman and does not provide the missing evidence as alleged by the Examiner. Assuming, *arguendo*, that Tsanev is relevant to the claimed invention, it does not provide evidence of inherent anticipation by Kolterman as argued by in the **Examiner's Answer**. As noted in the discussions of Tsanev above, the **Examiner's Answer** mischaracterizes the teachings of Tsanev. At page 18 of the **Examiner's Answer** the basis for the reliance on Tsanev is found:

Further, the **Examiner's Answer** mischaracterizes the teachings of Tsanev, which undercuts the basis for the stated rejection. At page 18 of the **Examiner's Answer** the basis for the reliance on Tsanev is found:

> Given Tsanev's express disclosure that 80% to 90% of type II diabetic patients are intrinsically obese ...

However, Tsanev does not support the Examiner's premise. What Tsanev the Abstract actually states is that:

> Age type diabetes was established in 80-90 percent of all diabetics. 80-90 percent of them being with overweight.

The newly cited Tsanev full scientific paper does not cure this defect in the Abstract and its corresponding statement at page 12 is different:

> 80-90% of all diabetics have mature onset diabetes (MOD), and 80-90% of them have above-normal weight.

In addition, neither Tsanev passage reciting the estimated percentage range relied on in the **Examiner's Answer** clearly relates to obesity. The Tsanev Abstract refers to 80-90% of patients being "overweight" and the Tsanev full scientific paper refers to 80-90% of patients being "above-normal weight." Neither term is necessarily medically equivalent to obesity. Consequently, Tsanev does not provide the teaching as alleged and relied upon by the Examiner, and cannot provide the "evidence" relied upon as a basis for the rejection.

Appellants request that the Board of Patent Appeals and Interferences remand this case to the Examiner with instructions to withdraw this rejection of Claims 23, 24, 27, 29, 31, 33, 34, 37-39, 80 and 82 under 35 U.S.C. § 102(a).

6. Claims 23, 24, 29, 33, 34 and 38 are not anticipated under 35 U.S.C. § 102(e)(2) over Gaeta as evidenced by Tsanev.

Appellants incorporate herein the Arguments presented in the Brief on Appeal filed 29 October 2008. Appellants also incorporate herein the Arguments presented in this Reply Brief in Part 1, above, because the Arguments against that obviousness rejection based on inherent anticipation also apply to the Arguments for this inherent anticipation rejection. The mischaracterizations of Tsanev relied upon in this rejection are found at page 23 and at 25 of the **Examiner's Answer**. As discussed above, Tsanev is not relevant, but in any event, simply does not provide the extrinsic evidence as alleged in the **Examiner's Answer**.

Appellants request that the Board of Patent Appeals and Interferences remand this case to the Examiner with instructions to withdraw this rejection of Claims 23, 24, 29, 33, 34 and 38 under 35 U.S.C. § 102(e)(2).

7. Claims 23, 24, 27, 29, 31, 33, 34, 37-39, 80 and 82 are not anticipated under 35 U.S.C. § 102(b) over Kolterman 1996 as evidenced by Itasaka.

Appellants incorporate herein the Arguments presented in the Brief on Appeal filed 29 October 2008.

Kolterman 1996 is directed to methods of treating diabetes. Kolterman 1996 (1) never contemplated or considered treating obesity, (2) never conducted any experiments for treating obesity, (3) never analyzed any results on the treatment of obesity; and (4) never presented any findings on the treatment of obesity. Kolterman 1996 had no intention to treat obesity.

Kolterman 1996 states that the subjects had a body mass index (BMI) of less than 27 (*see* page 493, left column). Thus, Kolterman 1996 reports that at least some patients were overweight. However, there is no evidence that all of the patients were obese or even overweight.[1] Contrary to the statements made in the **Examiner's Answer** at page 21, lines 2-3, there is absolutely no evidence that a subject weighing 70 kilograms or more is overweight or obese. Knowing a subject's weight, without knowing their height, does not support any assertion that the subject is overweight. For example, 70 kilograms is only 154 pounds.[2] No evidence exists to support the notion that each and every person weighing 154 pounds is overweight or obese.

Kolterman 1996 simply does not disclose, teach or suggest the limitations in the pending claims that recite, *inter alia*:

- "A method of treating obesity in a human subject..."
- "...an amount...effective to treat obesity..."
- "not administered in conjunction with another obesity relief

[1] The Centers for Disease Control states, *inter alia*, that a BMI of 25 to 29 is overweight, and that a BMI of 18.5 to 24.9 is normal. *See* http://www.cdc.gov/nccdphp/dnpa/healthyweight/assessing/index.htm. Similarly, the World Health Organization (WHO) defines "overweight" as a BMI equal to or more than 25, and "obesity" as a BMI equal to or more than 30. *See* WHO Fact sheet N°311, September 2006, at http://www.who.int/mediacentre/factsheets/fs311/en/index.html. The weight of the patient (e.g., shown in Table 1of Kolterman 1996) is irrelevant to the analysis because weight alone does not indicate whether a patient is overweight or obese. Obesity is determined based on the weight of a patient in view of their height. For example, 174.5 kilograms in Table 1 converts to 164.2 pounds. Without knowing the height of the subject, it is impossible to determine if the subject weighting 164.2 pounds is overweight or obese.

[2] It is known that 1 kilogram = 2.20462262 pounds.

agent" (Claim 23)

- "...wherein said human subject is in need of treatment for obesity."

The **Examiner's Answer** incorrectly applies the law on inherent anticipation. A claimed invention is inherent in the prior art if it is a "necessary and inevitable" consequence of the disclosure in a prior art reference. *Schering Corp. v. Geneva Pharmaceuticals, Inc.,* 339 F.3d 1373, 1378-1380 (Fed. Cir. 2003) (Emphasis Added). Stated another way, "[i]nherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Continental Can Company USA v. Monsanto Company*, 948 F.2d 1264, 1269 (Fed. Cir. 1991) (Emphasis Added).

The **Examiner's Answer** proves that Kolterman 1996 cannot anticipate the claimed invention. Kolterman 1996 teaches that the subjects had a BMI of less than 27; however, there is no evidence that all of the subjects were overweight or obese.[3] Because at least some of the diabetic patients in Kolterman 1996 are NOT obese, the treatment of obesity is not a necessary and inevitable consequence of Kolterman 1996's treatment of diabetes. That a treatment for obesity may result (which is not guaranteed because all the subjects in Kolterman 1996 were not obese) is not sufficient to establish inherency.

Itasaka is not relevant since it does not cure any of these defects in Kolterman 1996. Further, Itasaka provides what is an arbitrary, non-standard measurement to characterize obesity (and further appears limited to a population group, Japanese, different than that studied by Kolterman 1996). See footnote 1 herein. In any event, Itasaka does not provide a disclosure supporting the Examiner's premise in a clear and unambiguous manner, and fails to provide the evidence as alleged in the **Examiner's Answer**.

To summarize, in order for a prior art reference to inherently anticipate, the same result (e.g., treatment for obesity) must occur in the prior art reference each and every time (i.e., inevitable). Because there is no evidence that all the diabetic patients in Kolterman 1996 were overweight or obese, a treatment for obesity cannot occur each and every time by practicing Kolterman 1996.

[3] It appears that the Examiner is in agreement with this fact. *See* **Examiner's Answer** at page 17, lines 17-18.

Appellants request that the Board of Patent Appeals and Interferences remand this case to the Examiner with instructions to withdraw this rejection of Claims 23, 24, 27, 29, 31, 33, 34, 37-39, 80 and 82 under 35 U.S.C. § 102(b).

8. Claims 23, 24, 27, 29, 33, 34, 37 and 38 are not anticipated under 35 U.S.C. § 102(e)(2) over Beaumont as evidenced by Tsanev.

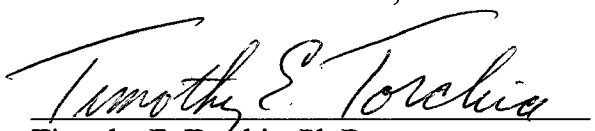
Appellants incorporate herein the Arguments presented in the Brief on Appeal filed 29 October 2008. Appellants also incorporate herein the Arguments presented in this Reply Brief in Part 2, above, because the Arguments against that obviousness rejection based on inherent anticipation also apply to the Arguments for this inherent anticipation rejection. The mischaracterizations of Tsanev relied upon in this rejection are found at page 26 and at 27 of the **Examiner's Answer**. As discussed above, Tsanev is not relevant, but in any event, simply does not provide the extrinsic evidence as alleged in the **Examiner's Answer**.

Appellants request that the Board of Patent Appeals and Interferences remand this case to the Examiner with instructions to withdraw this rejection of Claims 23, 24, 27, 29, 33, 34, 37 and 38 under 35 U.S.C. § 102(e)(2).

9. Conclusion

In view of the foregoing, Appellants request that the Board of Patent Appeals and Interferences remand the application to the Examiner with instructions to withdraw the outstanding rejections and issue a Notice of Allowance for all the pending claims.

Respectfully submitted,
AMYLIN PHARMACEUTICALS, INC.



Timothy E. Torchia, Ph.D.
Registration No. 36,700

Date: April 13, 2009
AMYLIN PHARMACEUTICALS, INC.
9360 Towne Centre Drive
San Diego, California 92121
Phone: 858-552-2200
Direct Dial: 858-754-7544